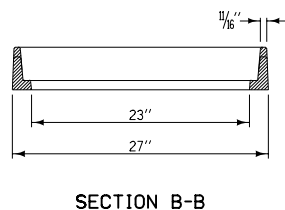
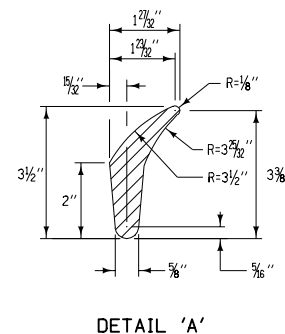


TYPE 11 GRATE
Minimum Weight = 340 lbs.



TYPE 11 FRAME
Minimum Weight = 224 lbs.



GENERAL NOTES:


The grate casting shall be Class 30 or better gray iron complying with the current Standard and Supplemental Specifications and shall be essentially as detailed hereon. The frame castings shall be ductile iron as specified in ASTM A-536, 45+KSI yield and shall be cast essentially as detailed hereon. The castings illustrated hereon are typical only. Alternate designs for similar situations may be submitted to the Engineer for approval. Minimum mass requirements will be met unless authorization is received for any such deviation. All castings subject to roadway traffic shall have a machine ground bearing surface to prevent rattling, and match-marked before delivery. The use of grinding pads is allowed as long as all dimensional requirements are met.

Finish of castings shall be smooth and free of defects as per the current Standard and Supplemental Specifications. Painting of casting is not required; however, if used, paint shall be evenly applied and neither sticky nor brittle when dry.

All component parts of casting shall fit smoothly together without forcing and the finished product shall have a completely satisfactory appearance.

An identifiable trade name or mark may be imprinted on castings by the casting foundry.

Unless specified otherwise as a part of detail plans, cast iron grates and ductile iron frames described hereon shall not be paid for separately, but shall be included with and considered incidental to intakes or utility accesses.

 Iowa Department of Transportation Highway Division	
STANDARD ROAD PLAN RA-66D	
REVISION: Redesigned frame and grate.	REVISION NO. 1
APPROVED BY: <i>William J. Allen</i> DESIGN METHODS ENGINEER	REVISION DATE 10-02-01
INTAKE FRAME AND GRATE TYPE 11	